

REMARKS

Claims 1 – 9 are pending in this Application. Reconsideration and further examination is respectfully requested.

Drawings

The drawings were objected to under 37 CFR 1.83(a). The Office Action stated that the corrected drawing faxed with the Applicant's previous response was illegible. The corrected drawing, showing the "backplane 170" as recited in claims 5 and 9, is therefore re-submitted with this response. The further objections set forth in the Office Action are respectfully traversed.

The Office Action states that "the drawings must show every feature of the invention specified in the claims", and therefore "the subject matter of claim 5 and the last four lines of claim 9 must be shown". The Applicant disagrees.

37 CFR 1.83(a) states that the drawings ... "must show every feature of the invention as specified in the claims". The term "feature" is not defined; more particularly, it is not specifically defined as "all structures and functions". The Applicant asserts that the drawings, specifically Figure 3, show every feature of the claimed invention in a block diagram format. The interconnections of all claimed elements are clearly shown. The function of each element cannot be shown in the block diagram. Therefore, the function of each structure and the whole is described, very clearly, in the specification. The specification and drawings unequivocally set forth a clear description of the Applicant's claimed invention, more than adequate to teach one

skilled in the art how to make and use the invention. The Applicant therefore respectfully requests that the objection to the drawings be withdrawn.

Claim Rejections – 35 USC §103

Claims 1 – 3 and 5 – 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kedem, U.S. Patent No. 6,725,331, in view of van der Waal, A., “Efficient Interprocessor Communication in a Tightly Coupled Homogeneous Multiprocessor System” (“van der Waal”). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kedem ‘761 (Applicant assumes Kedem ‘331 was intended) in view of van der Waal, and further in view of Sato et al., U.S. Patent No. 5,133,071 (“Sato”). A Statement of Common Ownership of Kedem ‘331 is submitted with this response, thus obviating these rejections.

Claims 1 – 3 and 6 – 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Symmetrix Model 5500 Product Manual (Symmetrix Product Manual), in view of Litt, U.S. Patent No. 5,815,651 (“Litt”), and further in view of van der Wal. This rejection is respectfully traversed.

The Applicants’ exemplary claim 1 sets forth:

“A messaging mechanism for inter-processor communication comprising:  
a shared service processor providing a single point of contact for a user interfacing with at least one line processor, the service processor in electrical communication with shared memory including mailboxes operable to enable communication between the at least one line processor and the service processor;  
wherein the service processor is operable to selectively deliver commands to a respective mailbox of a selected one of said at least one line processor, and  
the service processor is selectively operable to issue a system management interrupt to any or all of the at least one line processors, the interrupt signaling to

the at least one line processor to access a respective mailbox in the shared memory.”

The Applicant was faced with an environment wherein a shared service processor that provides a single point of contact for a user is interfaced with line processors. The applicant innovatively applied a communication scheme to, amongst other things, operate efficiently in such an environment.

The Symmetrix Product Manual discloses a service processor in a storage system. The Office Action admits that the Symmetrix Product Manual fails to teach or suggest “a system wherein: (a) the service processor is in electrical communication with shared memory including mailboxes operable to enable communication between the at least one line processor and the service processor; (b) the service processor is operable to selectively deliver commands to a respective mailbox of a selected one of said at least one line processor; (c) the service processor is selectively operable to issue a system management interrupt to any or all of the at least one line processors, the interrupt signaling to the at least one line processor to access a respective mailbox in the shared memory”.

The Office Action then combines Litt with the Symmetrix Product Manual, but concludes that the combination does not teach items (a) – (c) above; exactly the same things that the Symmetrix product Manual fails to teach.

The Office Action then contends, however, that van der Waal teaches a mailbox communication scheme, and that it would have been obvious to combine the mailbox scheme of van der Waal with the system described in the Symmetrix Product Manual to arrive at the

Applicant's claimed invention. The Applicant disagrees, for the reasons set forth in the previous response, and for the following reasons.

First of all, Litt is combined with the Symmetrix Product Manual for its disclosure of a parallel bus. The Office Action replaces the serial bus of the Symmetrix Product Manual with the parallel bus of Litt to teach, apparently, the claimed "interfacing". The Applicant previously argued that Litt is irrelevant, because the form of interface is not claimed, and therefore there is no need to present prior art teaching a parallel bus. The argument stands. The Office Action further points to the specification regarding the interfacing. It is well settled, however, that claims are not limited to the embodiments presented as implementation examples in the specification.

Regarding a particular point related to the claimed "interfacing", the Office Action states that the Applicant's previous response accused the Examiner of mischaracterizing the prior art by saying that the Symmetrix Product Manual teaches a service processor communicating with the line processor via a serial interface, as opposed to via an RS-232 interface. The Applicant did not make this statement. The Applicant specifically stated "The Office Action contends that the Symmetrix Product Manual discloses a system comprising a shared service processor that communicates with the line processors via a serial interface. Actually the shared service processor communicates with the subsystems via the RS-232". What the Applicant intended to convey is that the Symmetrix Product Manual does not teach communication with line processors – it teaches communication with "the subsystems" – and it is unclear how "the subsystems" is equated with line processors. The Applicant was not conveying that an RS232 is

not a serial interface. Nor was the Applicant conveying that the Examiner mischaracterized the reference.

Finally, the Applicant argued previously that the motivation to combine van der Waal with the Symmetrix Product Manual and Litt relies upon impermissible hindsight. The Office Action contends that the obviousness rejection is proper because “all assertions of the Examiner made in the rejection have been supported by knowledge gleaned from the references”. The Applicant disagrees.

The Applicant was faced with an environment wherein a shared service processor that provides a single point of contact for a user is interfaced with line processors. Van der Waal is concerned with efficient implementation of parallel processing in a multiprocessor environment (p. 362 2<sup>nd</sup> full paragraph). As previously set forth, many different interprocessor communication schemes could have been chosen by the Applicant in order to reduce bus contention in the target environment. Why would van der Waal’s messaging system, as opposed to any other scheme, be selected? Van der Waal makes no such suggestion. The combination is therefore made in light of the Applicant’s disclosure regarding the claimed shared service processor environment. And that is impermissible.

The Applicant therefore respectfully requests that the rejection with regard to claim 1 be withdrawn. Claims 2-3, dependent on claim 1, are believed allowable for the same reasons as set forth for claim 1. Claims 6-8 are method claims corresponding to apparatus claims 1-3, respectively. The Applicant therefore respectfully requests that the rejection with regard to claims 1 – 3 and 6 – 8 be withdrawn.

Claim 4 was rejected over the combination of the Symmetrix Product Manual in view of Litt and further in view of van der Wal and further in view of Sato. As previously argued, claim 4 depends from claim 1. The addition of Sato to the Symmetrix Product Manual, Litt, and van der Wal fails to solve the deficiencies of the combination as previously described. Thus the applicant asserts that claim 4 is allowable for the reasons set forth with regard to claims 1 – 3 and 6 – 8.

The Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mary Steubing, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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Statement of Common Ownership

US patent 6,725,331 B1 ("Kedem") was filed on January 7, 1998, and issued on April 20, 2004. Kedem therefore qualifies as 102(e) prior art to the Applicant's parent Application filed on December 18, 1998. Under the AIPA, continuing patent applications filed on parent applications filed before May 29, 2000 are subject to the AIPA rules governing 103 rejections.

In accordance with the AIPA rules, 103 rejections based on commonly owned 102(e) prior art may be disqualified. The Applicant asserts that Kedem and the Applicants' pending Application were all 100% commonly owned by EMC Corporation of Hopkinton, MA at the time the invention described in the Application was made, as is evidenced by the Assignee references on the Kedem patent. The Applicants therefore respectfully request that Kedem be disqualified as prior art to Applicants' invention for purposes of 35 U.S.C. 103.

